

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-24 (cancelled).

25 (new). A catalyst system for the production of acetic acid which catalyst system comprises an iridium carbonylation catalyst, methyl iodide co-catalyst, optionally at least one of ruthenium, osmium, rhenium, zinc, gallium, tungsten, cadmium, mercury and indium and at least one non-hydrohalogenoic acid promoter.

26 (new). A catalyst system according to claim 25 wherein the non-hydrohalogenoic acid is selected from an oxoacid, a superacid, a heteropolyacid and mixtures thereof.

27 (new). A catalyst system according to claim 26 wherein the non-hydrohalogenoic acid is an oxoacid.

28 (new). A catalyst system according to claim 27 wherein the oxoacid is an oxoacid of the elements of Groups 13 to 17 of the Periodic Table.

29 (new). A catalyst system according to claim 27 wherein the oxoacid is selected from  $\text{H}_2\text{SO}_4$ ,  $\text{HNO}_3$ ,  $\text{H}_3\text{PO}_4$  and mixtures thereof.

30 (new). A catalyst system according to claim 27 wherein the molar ratio of oxoacid anion to iridium is in the range [greater than 0 to 0.4] : 1.

31 (new). A catalyst system according to claim 29 wherein the molar ratio of oxoacid anion to iridium is [greater than 0 to 0.35] : 1, such as in the range [0.05 to 0.3] : 1.

32 (new). A catalyst system according to claim 26 wherein the non-hydrohalogenoic acid is a superacid.

33 (new). A catalyst system according to claim 32 wherein the superacid has a non-coordinating anion to iridium.

34 (new). A catalyst system according to claim 32 wherein the superacid is a superacid having an anion selected from  $\text{BF}_4^-$ ,  $\text{PF}_6^-$ ,  $(\text{CF}_3\text{SO}_2)_2\text{N}^-$ ,  $\text{CBH}_6\text{Br}_6^-$ ,  $\text{CF}_3\text{SO}_3^-$ ,  $\text{SbF}_6^-$ ,  $\text{FSO}_3^-$  and mixtures thereof.

35 (new). A catalyst system according to claim 32 wherein the superacid is selected from  $\text{HBF}_4$ ,  $\text{HPF}_6$ ,  $(\text{CF}_3\text{SO}_2)_2\text{NH}$ ,  $\text{HCBH}_6\text{Br}_6$  and mixtures thereof.

36 (new). A catalyst system according to claim 32 wherein the molar ratio of the superacid anion to iridium is in the range [greater than 0 to 2.5] : 1.

37 (new). A catalyst system according to claim 36 wherein the molar ratio of the superacid anion to iridium is in the range [greater than 0 to 1] : 1, such as in the range [0.05 to 0.5] : 1.

38 (new). A catalyst system according to claim 26 wherein the non-hydrohalogenoic acid is a heteropolyacid.

39 (new). A catalyst system according to claim 38 wherein the heteropolyacid comprises molybdenum and/or tungsten as peripheral atoms.

40 (new). A catalyst system according to claim 39 wherein the heteropolyacid is selected from 12-tungstophosphoric acid, 12-molybdophosphoric acid, 12-tungstosilicic acid, 12-molybdosilicic acid and mixtures thereof.

41 (new). A catalyst system according to claim 38 wherein the molar ratio of the heteropolyacid anion to iridium is in the range [greater than 0 to 5] : 1.

42 (new). A catalyst system according to claim 41 wherein the molar ratio of the heteropolyacid anion to iridium is in the range [greater than 1 to 4] : 1, such as in the range [1.5 to 3.5] : 1.

43 (new). A catalyst system according to claim 25 which comprises at least one of ruthenium, osmium, rhenium, zinc, gallium, tungsten, cadmium, mercury and indium.

44 (new). A catalyst system according to claim 43 which comprises at least one of ruthenium, osmium, rhenium and indium.

45 (new). A process for the production of acetic acid by reacting carbon monoxide with methanol and/or a reactive derivative thereof in a liquid reaction composition comprising methyl acetate, a finite concentration of water, acetic acid and a catalyst system comprising a catalyst system according to claim 25.

46 (new). A process according to claim 45 wherein the concentration of methyl acetate in the liquid reaction composition is in the range 1 to 70% by weight.

47 (new). A process according to claim 46 wherein the methyl acetate concentration is in the range 2 to 50% by weight, such as 3 to 35% by weight.

48 (new). A process according to claim 45 wherein the concentration of water in the liquid reaction composition is in the range 1 to 15% by weight.

49 (new). A process according to claim 48 wherein the concentration of water is in the range 1 to 10% by weight, such as 1 to 6.5% by weight.

50 (new). A process according to claim 45 wherein the process is carried out as a continuous process.